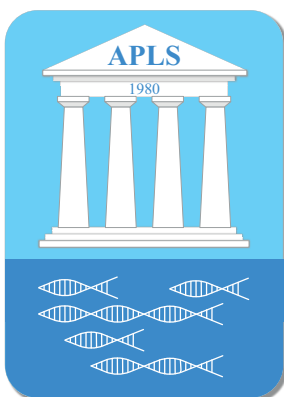
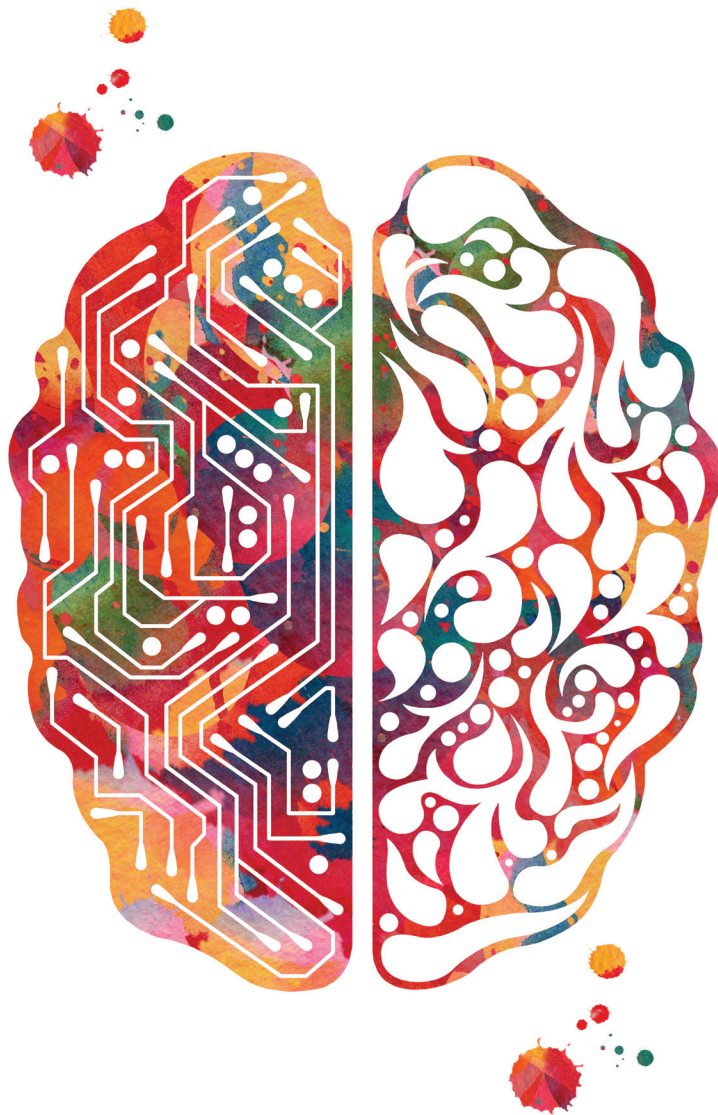


# POLITICS AND THE LIFE SCIENCES

VOL. 37, No. 2

WWW.CAMBRIDGE.ORG/PLS

FALL 2018



THE ASSOCIATION FOR  
POLITICS AND THE LIFE SCIENCES

WWW.APLSNET.ORG

CAMBRIDGE  
UNIVERSITY PRESS

# POLITICS AND THE LIFE SCIENCES

A JOURNAL OF POLITICAL BEHAVIOR, ETHICS, AND POLICY

## Editors, Advisors, and Officers

### Co-Chief Editors

**Margaret E. Kosal, Ph.D.**

Sam Nunn School of International Affairs  
Georgia Institute of Technology

**Tony E. Wohlers, Ph.D.**

Behavioral and Social Sciences Division  
Harford Community College

### Associate Editors

**Delia Dumitrescu**

School of Politics, Philosophy,  
Language and Communication Studies  
University of East Anglia

**Amy L. Fletcher**

School of Political Science and  
International Relations  
University of Canterbury,  
New Zealand

### Book Reviews Editor

**Jordan Mansell, M.A.**

Department of Politics and  
International Relations  
University of Oxford

### Former Editors-in-Chief

**Erik P. Bucy, Ph.D.**

College of Media and Communication  
Texas Tech University  
2008–2017

**Robert Hunt Sprinkle, M.D., Ph.D.**

School of Public Policy  
University of Maryland  
2001–2008, 2015–2016 (Acting Editor)

**Gary R. Johnson, Ph.D.**

Department of Political Science  
Lake Superior State University  
1991–2001

**Thomas C. Wiegale, Ph.D.**

Department of Political Science  
Northern Illinois University  
1981–1991

### On the cover

Print of an original anatomy art watercolor by Mimi (mimiwaterworks@gmail.com) depicting the creativity and logic functions of the brain and scholarship trying to understand the implications of research at the biological frontiers of the life sciences. Used by permission of the artist. mimiwatercolorprints.com

## Editorial Advisory Board

**Michael Bang Petersen, Ph.D.**

Aarhus University, Denmark

**Laura Betzig, Ph.D.**

Whitmore Lake, Michigan

**Brian B. Boutwell, Ph.D.**

Saint Louis University

**William P. Brandon, Ph.D., M.P.H.**

University of North Carolina, Charlotte

**Dominique Brossard, Ph.D.**

University of Wisconsin, Madison

**Malcom Dando, Ph.D.**

University of Bradford

**Dorothy J. Dankel, Ph.D.**

University of Bergen

**Chris Dawes, Ph.D.**

New York University

**Sophal Ear, Ph.D.**

Occidental College

**Peter Emanuel, Ph.D.**

U.S. Army Research Development  
Engineering Command,  
Aberdeen Proving Ground

**Maryanne Fisher, Ph.D.**

Saint Mary's University

**Robert E. Gilbert, Ph.D.**

Northeastern University

**John Hibbing, Ph.D.**

University of Nebraska

**John G. Horgan, Ph.D.**

Georgia State University

**Kevin D. Hunt, Ph.D.**

Indiana University

**Jo Husbands, Ph.D.**

U.S. National Academy of Sciences

**Sverker Jagers, Ph.D.**

University of Gothenburg

**Rebecca Katz, Ph.D.**

Georgetown University

**Casey Klofstad, Ph.D.**

University of Miami

**Daniel J. Kruger, Ph.D.**

University of Michigan

**Yanna Krupnikov, Ph.D.**

Stony Brook University

**Kobi Leins, J.D.**

University of Melbourne

**Aaron D. Levine, Ph.D.**

Georgia Institute of Technology

**Roger D. Masters, Ph.D.**

Dartmouth College

**Glenn McGee, Ph.D.**

Albany Medical College

**Janna Merrick, Ph.D.**

University of South Florida

**Thomas H. Murray, Ph.D.**

The Hastings Center

**Steven A. Peterson, Ph.D.**

Pennsylvania State University, Harrisburg

**Malcolm Potts, M.B., B.Chir., Ph.D.**

University of California, Berkeley

**Thomas H. Preston, Ph.D.**

Washington State University

**Julie Seaman, J.D.**

Emory University

**Bradley A. Thayer, Ph.D.**

Tallinn University

**Mark van Vugt, Ph.D.**

VU University Amsterdam

**Kathleen M. Vogel, Ph.D.**

North Carolina State University

**Susan Wright, Ph.D.**

University of California, Santa Cruz

## Executive Directors of the Association for Politics and the Life Sciences

**Gregg R. Murray, Ph.D.**

Augusta University, 2013–

**David B. Goetze, Ph.D.**

Utah State University, 2002–2010

**Gary R. Johnson, Ph.D.**

Lake Superior State University, 1996–2001

**James N. Schubert, Ph.D.**

Northern Illinois University, 1991–1996

**Thomas C. Wiegale, Ph.D.**

Northern Illinois University, 1981–1991

## The Council of the Association for Politics and the Life Sciences

**Erik P. Bucy, Ph.D.**

Texas Tech University

**Eileen Burgin, Ph.D.**

University of Vermont

**Margaret E. Kosal, Ph.D.**

*ex officio*

Georgia Institute of Technology

**Christopher Larimer, Ph.D.**

University of Northern Iowa

**Laurette Liesen, Ph.D.**

Lewis University, *Vice Chair*

**Gregg R. Murray, Ph.D.**

Augusta University

**Steven A. Peterson, Ph.D.**

Pennsylvania State University, Harrisburg

**Brian R. Spisak, Ph.D.**

VU University Amsterdam

**Patrick Stewart, Ph.D.**

University of Arkansas, *Chair*

**Bradley A. Thayer, Ph.D.**

Tallinn University

**Tony E. Wohlers, Ph.D.**

*ex officio*

Harford Community College

Welcome to *PLS* ..... ii

Introduction to the Special Issue on Biotechnological Frontiers  
Amy L. Fletcher and Margaret E. Kosal ..... 155

**RESEARCH ARTICLES**

A cultural neuroscience perspective on North Korean strategic culture  
*Implications for tailored deterrence*  
John M. Friend ..... 156

Dual-use nano-neurotechnology:  
*An assessment of the implications of trends in science and technology*  
Kathryn Nixdorff, Tatiana Borisova, Serhiy Komisarenko and Malcolm Dando ..... 180

Anticipating emerging biotechnology threats  
*A case study of CRISPR*  
Kathleen M. Vogel and Sonia Ben Ouagrham-Gormley ..... 203

"Doing CRISPR"  
*The novel case of Atlantic salmon, science and industry*  
Dorothy Jane Dankel ..... 220

Genetic and environmental influences on sociopolitical attitudes  
*Addressing some gaps in the new paradigm*  
Edward Bell, Christian Kandler and Rainer Riemann ..... 236

National Academies of Sciences, Engineering, and Medicine report on genetically engineered crops influences public discourse  
Emily L. Howell, Christopher D. Wirz, Dominique Brossard, Kathleen Hall Jamieson, Dietram A. Scheufele, Kenneth M. Winnege and Michael A. Xenos ..... 250

**REVIEW ESSAY**

How to read for current developments in human genetics relevant to justice  
Benjamin Gregg ..... 262

**BOOK REVIEWS**

Nehal Bhuta, Susanne Beck, Robin Geiß, Hin-Yan Liuy and Craus Kreß, eds.,  
*Autonomous Weapons Systems: Law, Ethics, Politics*  
Reviewed by Ulrike Franke ..... 278

Ademola A. Adenle, E. Jane Morris, and Denis J. Murphy, eds., *Genetically Modified Organisms in Developing Countries: Risk Analysis and Governance*  
Reviewed by Anthony John Bridgen ..... 280

© Association for Politics and the Life Sciences, 2018

## Welcome to *PLS*

---

**P**OLITICS AND THE LIFE SCIENCES is an interdisciplinary peer-reviewed journal with a global audience. *PLS* is owned by the ASSOCIATION FOR POLITICS AND THE LIFE SCIENCES, the APLS ([www.aplsnet.org](http://www.aplsnet.org)), which is both an American Political Science Association (APSA) Related Group and an American Institute of Biological Sciences (AIBS) Member Society. *PLS* has been published by Cambridge University Press since Spring 2016.

*PLS* publishes original scholarly research at the intersection of politics and the life sciences. The topic range includes evolutionary and laboratory insights into political behavior, from decision-making to leadership, cooperation, and competition; evolutionary analysis of political intolerance and violence, from group conflict to warfare, terrorism, and torture; political and political-economic analysis of life-sciences research, health policy, agricultural and environmental policy, and biosecurity policy; philosophical analysis of bioethical controversies; and historical analysis of currently misunderstood issues within the range described above. Contributors include political scientists, political psychologists, life scientists, clinicians, health-policy scholars, bioethicists, biosecurity and international-security experts, environmental scientists

and ecological economists, moral and evolutionary philosophers, political and environmental historians, communications and public-opinion researchers, and legal scholars.

*PLS* is printed, mailed, and posted online ([www.cambridge.org/pls](http://www.cambridge.org/pls)) twice annually, in the spring and fall, by Cambridge University Press. Papers succeeding in peer review, once emerging from revision and prepress routines, may be published online-before-print for access by subscribers, requesting journalists, and, in featured instances, the public.

*PLS* is indexed comprehensively in full text, from its first to its latest issue, on Cambridge Core ([www.cambridge.org/pls](http://www.cambridge.org/pls)). *PLS* is indexed comprehensively from March 2004, issue 23(1), at BioOne.2 ([www.bioone.org](http://www.bioone.org)). All titles and abstracts are indexed in MEDLINE at PubMed ([www.pubmed.gov](http://www.pubmed.gov)). Back issues are archived in full text at JSTOR ([www.jstor.org](http://www.jstor.org)). *PLS* is also included in Academic Search Alumni Edition, Academic Search Premier, Academic Search Product Family, International Political Science Abstracts, Psychology & Behavioral Sciences Collection, and Social Sciences Abstracts — all aggregated for institutions by EBSCOhost<sup>®</sup>, a commercial service.